



Longfin Smelt Fact Sheet

The longfin smelt, *Spirinchus thaleichthys*, is an anadromous smelt (family Osmeridae) found in California's bay, estuary, and nearshore coastal environments from San Francisco Bay north to Lake Earl, near the Oregon border. The San Francisco Estuary and the Sacramento-San Joaquin Delta supports the largest longfin smelt population in California, and Humboldt Bay likely ranks second in longfin smelt abundance. Most descriptions of longfin smelt life history in California focus on San Francisco Bay populations. Relatively little is known about North Coast longfin smelt or specifics about their life history.

Longfin Smelt Distribution and Range in California

Longfin smelt habitat includes:

- Slightly upstream from Rio Vista (on the Sacramento River in the Delta) including the Cache Slough region and Medford Island (on the San Joaquin River in the Delta) through Suisun Bay and Suisun Marsh
- San Pablo Bay
- San Francisco Bay (main)
- South San Francisco Bay
- The Gulf of the Farallones, just outside of the Golden Gate
- Humboldt Bay, Eel river estuary and local coastal areas



DFG photo by D. Contreras

Longfin Smelt Life History and Habitat

Longfin smelt have a short lifespan. Most reach maturity at two years of age, and can grow from 124 mm to 140 mm in length (standard length). Most live only two years, but three-years-old smelt have been observed. They spend their adult life in bays, estuaries, and nearshore coastal areas, and migrate into freshwater rivers to spawn. Spawning occurs primarily from January through March, after which most adults die.

Adult longfin smelt migrate into low salinity or freshwater reaches of coastal rivers and tributary streams to spawn. Newly hatched larvae are 5 mm to 8 mm long. The larvae are buoyant, and are quickly swept downstream into brackish water. Larvae are able to swim up and down in the water column, and use river and tidal currents to stay in areas where fresh and salt water mix.

Longfin smelt encounter a wide variety of water temperatures and salinities (freshwater to saltwater) during their life cycle but are rarely found in water temperatures greater than 22 degrees C. They are mostly found in mid-water or near the bottom and are known to migrate up and down in the water column following prey at night.



Sequence of Events Leading to Longfin Smelt Status as a Threatened Species under the California Endangered Species Act (CESA)

On **August 8, 2007** the Bay Institute, the Center for Biological Diversity and the Natural Resources Defense Council petitioned the California Fish and Game Commission (Commission) to list the longfin smelt as an endangered species under the CESA on an emergency basis. The Commission rejected the request to list on an emergency basis, but forwarded the petition to the Department of Fish and Game (DFG) for a 90-day review. The petition stated that all available scientific information and monitoring data indicate the abundance of longfin smelt in all major estuaries in California (which is the southern extent of the species' range) has declined severely in the past two decades. In the San Francisco Estuary and the Sacramento-San Joaquin Delta, which supports the largest and southernmost longfin smelt population, abundance has reached record low levels. In some smaller California estuaries to the north, the species may already be extinct. Given these trends, longfin smelt in California meet the criterion for threatened or endangered status.

On **February 7, 2008** the Commission accepted the petition, thereby designating the longfin smelt a candidate species (with the same protections against take that are afforded to listed species) and initiating a year-long review of the status of the species by the DFG.

On **January 23, 2009** the *Longfin Smelt Status Review* prepared by the DFG recommended to the Commission that longfin smelt throughout California should be listed as a threatened species under the CESA.

On **March 5, 2009** the Commission determined that longfin smelt should be listed as threatened throughout their range in California, after considering the DFG's recommendation, public testimony and the information in the petition.

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State Law

The CESA prohibits take of any species that the Commission determines to be a candidate, endangered, or threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Visit these Web sites for further information:

- www.dfg.ca.gov/habcon/cesa
- www.dfg.ca.gov/habcon/cesa/incidental/cesa_policy_law.html
- www.dfg.ca.gov/habcon/cesa/incidental/incid_perm_proced.html

References & Further Reading

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